

3577-180

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicant/Patentee:** Nobuaki Onagi

**Serial No./Patent No.:** Unassigned/5,448,552

**Filed/Issued:** Concurrently/September 5, 1995

**For:** **SUPER RESOLUTION INFORMATION REPRODUCTION  
BY TRACKING ADDRESS INFORMATION IN NORMAL  
RESOLUTION**

**DECLARATION FOR REISSUE APPLICATION  
OF U.S. PATENT NO. 5,448,552  
UNDER 37 C.F.R. §§ 1.172 AND 1.175**

I, Nobuaki Onagi, hereby declare and state:

1. THAT I am a citizen of Japan, reside at Tsurugashima-shi, Saitama-ken, Japan and have a post office address at Pioneer Electronic Corporation, Sougou Kenkyusho, No. 6-1-1 Fujimi, Tsurugashima-shi, Saitama-ken, Japan.
2. THAT I believe myself to be the original, first and sole inventor of the subject matter which is described and claimed in U.S. Patent No. 5,448,552, issued on September 5, 1995, for which a reissue patent is sought, the specification of which is attached hereto.
3. THAT I do not know and do not believe that said invention was ever known or used in the United States of America before my invention thereof.

4. THAT I have reviewed and understand the contents of the above identified specification, including claims 1 through 23, of which claims 11 through 23 are new, being introduced herewith, and claims 2 and 7 being amended herewith.
5. THAT I acknowledge the duty to disclose to the Office all information known to be material to patentability as defined in 37 C.F.R. § 1.56.
6. THAT this application is made pursuant to 37 C.F.R. § 1.175 because I verily believe the original patent to be partly inoperative by reason of my having claimed less than I had a right to claim.
7. THAT I became aware of the deficiencies of claims 1 through 10 in U.S. Patent No. 5,448,552 in May 1997.
8. THAT the specific deficiency in each of the original patent claims 1 through 10 is that all of claims 1 through 10 require: (1) the substrate to be formed in a magneto-optical disk; and (2) the information pits to be recording in a magneto-optical recording operation.
9. THAT claim 1 is deficient in being directed toward an optical disk having a substrate formed in a magneto-optical disk and having a plurality of information pits recorded on the recording surface of the disk in a magneto-optical recording operation.

10. THAT claim 2 is deficient for the same reasons as claim 1 is deficient and that the additional limitations of claim 2 do not correct the deficiencies in claim 1, because claim 2 further limits claim 1 without changing its coverage of an optical disk having a substrate formed in a magneto-optical disk and having a plurality of information pits recorded on the recording surface of the disk in a magneto-optical recording operation.
11. THAT claim 2 is further deficient in that on line 3 a spelling error of the word “disk” was introduced during the course of prosecution of the patent application.
12. THAT claim 3 is deficient in being directed toward an optical disk having a substrate formed in a magneto-optical disk and having a plurality of information pits recorded on the land and the groove of the recording track at the recording surface of the disk in a magneto-optical recording operation.
13. THAT claims 4 through 7 are deficient for the same reasons as claim 3 is deficient and that the additional limitations of claims 4 through 7 do not correct the deficiencies in claim 3, because claims 4 through 7 further limit claim 3 without changing its coverage of an optical disk having a substrate formed in a magneto-optical disk and having a plurality of information pits recorded on the land and the groove of the recording track at the recording surface of the disk in a magneto-optical recording operation.

14. THAT claim 7 is further deficient in that on line 3 a spelling error of the word “disk” was introduced during the course of prosecution of the patent application.
15. THAT claim 8 is deficient in being directed toward an apparatus for reproducing an optical disk having a substrate formed in a magneto-optical disk and having a plurality of information pits recorded on the land and the groove of the recording track at the recording surface of the disk in a magneto-optical recording operation.
16. THAT claims 9 and 10 are deficient for the same reasons as claim 8 is deficient and that the additional limitations of claims 9 and 10 do not correct the deficiencies in claim 8, because claims 9 and 10 further limit claim 8 without changing its coverage of an apparatus for reproducing an optical disk having a substrate formed in a magneto-optical disk and having a plurality of information pits recorded on the land and the groove of the recording track at the recording surface of the disk in a magneto-optical recording operation.
17. THAT claims 2 and 7, being amended herewith, overcome the deficiencies of patent claims 2 and 7 by correcting the spelling errors therein.
18. THAT claims 11 through 13, being newly submitted herewith, overcome the deficiencies of the patented claims 1 and 2 by being directed toward an optical disk having a substrate shaped in an optical disk and having a plurality of information pits recorded on the

- plurality of recording tracks at the recording surface of the optical disk in an optical recording operation.
19. THAT claims 14 through 19, being newly submitted herewith, overcome the deficiencies of the patented claims 3 through 7 by being directed toward an optical disk having a substrate formed in an optical disk and having a plurality of information pit recorded on the land and the groove of the recording track at the recording surface of the optical disk in an optical recording operation.
20. THAT claims 20 through 23, being newly submitted herewith, overcome the deficiencies of the patented claims 8 through 10 by being directed toward an apparatus for reproducing an optical disk having a substrate formed in an optical disk and having a plurality of information pits recorded on the land and the groove of the recording track at the recording surface of the optical disk in an optical recording operation.
21. THAT the error of insufficiency of the patented claims 1 through 10 arose during prosecution of the patent by amendment to the claims, said amendment filed on December 21, 1994 in response to an Office Action of September 26, 1994.
22. THAT in the above-referenced amendment, the term “magneto-optical” was added for the first time as suggested by the examiner to overcome the examiner’s objections to the claims.

23. THAT claim 1 was amended in the above-referenced amendment as follows:

Claim 1 (Amended). An optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon, comprising:  
a substrate shaped in a magneto-optical disk, and having a recording surface;  
a plurality of recording tracks formed substantially coaxially on the recording surface;  
a plurality of information pits, which are recorded on said plurality of recording tracks as magnetization directions at said recording surface in a magneto-optical recording operation and are arranged with such a high pit density as to be non-reproducible by a normal resolution reproduction by use of the light spot but reproducible by a super resolution reproduction by use of the light spot[, recorded on said plurality of recording tracks in a recording operation of said optical disk]; and  
an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of recording tracks adjacent to each other in a radial direction of the optical disk, having a convex or concave shape on the recording surface and being arranged with such a low pit density as to be reproducible by a normal resolution reproduction by use of the light spot.

24. THAT claim 3 was similarly amended as follows:

Claim 3 (Amended). An optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon, comprising:  
a substrate shaped in a magneto-optical disk, and having a recording surface;  
a recording track including a plurality of lands and a plurality of grooves, and formed substantially coaxially on the recording surface;  
a plurality of information pits, which are recorded on both of the land and the groove as magnetization directions at said recording surface in a magneto-optical recording operation and are arranged with such a high pit density as to be non-reproducible by a normal resolution reproduction by use of the light spot but reproducible by a super resolution reproduction by use of the light spot[, recorded on said both of the land and the groove a recording operation of said optical disk]; and  
an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of the land and the groove adjacent to each other in a radial direction of the

optical disk, having a convex or concave shape on the recording surface and being arranged with such a low pit density as to be reproducible by a normal resolution reproduction by use of the light spot.

25. THAT claim 8 was similarly amended as follows:

Claim 8 (Amended). An optical disk reproducing apparatus for reproducing an optical disk, to be reproduced by forming a light spot with a predetermined diameter thereon, comprising:

a substrate shaped in a magneto-optical disk, and having a recording surface; a recording track including a plurality of lands and a plurality of grooves, and formed substantially coaxially on the recording surface; a plurality of information pits, which are recorded on both of the land and the groove as magnetization directions at said recording surface in a magneto-optical recording operation and are arranged with such a high-pit density as to be non-reproducible by a normal resolution reproduction by use of the light spot but reproducible by a super resolution reproduction by use of the light spot[, recorded on both of the land and the groove in a recording operation of said optical disk]; and an address pit for address reproduction formed in advance to the recording operation on the recording surface with respect to one set of the land and the groove adjacent to each other in a radial direction of the optical disk, having a convex or concave shape on the recording surface and being arranged with such a low pit density as to be reproducible by a normal resolution reproduction by use of the light spot, said apparatus comprising:

an optical pickup for irradiating a read beam onto said optical disk to form the light spot with the predetermined diameter and reading information recorded on said optical disk;

a first driving means for searching the address pit corresponding to a desired land or groove by driving the optical pickup, and for driving the read beam to a recording position of the address pit when reproducing the information pit on the desired land or groove; and

a second driving means for driving the read beam to the desired land or groove from the recording position of the address pit.

26. THAT I believe I had the right to claim the subject matter of claims 1 through 10 without the limitations that the optical disk comprises a substrate shaped in a magneto-optical disk and that the information pits are recorded in a magneto-optical recording operation,

subject to the limitations that the optical disk comprises a substrate shaped in an optical disk and that the information pits are recorded in an optical recording operation as claimed in claims 11 through 23, as added herewith.

27. THAT the subject matter of claims 11 through 23 as added herewith is disclosed within the specification hereof.

28. THAT the errors in the scope of claim coverage arose without any deceptive intent through oversight during the original preparation and prosecution of U.S. Patent Application Serial No. 08/126,575, now U.S. Patent No. 5,448,552.

29. THAT an Order for a Title Report is being submitted herewith as required in an application for the reissue of a patent.

30. THAT an Assent of Assignee to the filing of this reissue application is being submitted herewith.

31. THAT an Offer to Surrender Original Patent is being submitted herewith as required in an application for the reissue of a patent.



32. THAT I hereby appoint the following attorneys to prosecute this application and to transact all business with the U.S. Patent and Trademark Office in connection herewith:

<u>Attorney</u>	<u>Registration No.</u>
Joseph C. Sullivan	18,720
John Kurucz	18,688
Gerald Levy	24,419
Joseph T. Eisele	25,331
Ronald R. Santucci	28,988
Ronald E. Brown	32,200
John F. Gulbin	33,180
Richard J. Danyko	33,672

33. THAT all correspondence and telephone calls should be directed to:

Gerald Levy  
Kane, Dalsimer, Sullivan, Kurucz,  
Levy, Eisele and Richard LLP  
711 Third Avenue  
New York, New York 10017  
(212) 687-6000

34. THAT I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine and imprisonment, or both, under section 1001 of Title 18

of the United States Code; and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: June 14, 1997

Nobuaki Onagi  
Nobuaki Onagi

3577-180

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicant/Patentee:** Nobuaki Onagi

**Serial No./Patent No.:** Unassigned/5,448,552

**Filed/Issued:** Concurrently/September 5, 1995

**For:** **SUPER RESOLUTION INFORMATION REPRODUCTION  
BY TRACKING ADDRESS INFORMATION IN NORMAL  
RESOLUTION**

**ASSENT OF ASSIGNEE**

Assistant Commissioner for Patents  
Washington, D.C. 20231

SIR:

The undersigned, assignee of the entire interest in U.S. Patent No. 5,448,552, hereby  
assents to the above-identified application for the reissue thereof.

Attached hereto is a "Certificate Under 37 C.F.R. § 3.73(b)" establishing the right of the  
assignee to take action on this reissue application.

Pioneer Electronic Corporation

By: *Nobuaki Onagi*

Name:

Date:

Title:

*June 27, 1997*

*General Manager*

*Patent Administration  
Department*

*Intellectual Property  
Division*

3577-180

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicant/Patentee:** Nobuaki Onagi

**Serial No./Patent No.:** Unassigned/5,448,552

**Filed/Issued:** Concurrently/September 5, 1995

**For:** **SUPER RESOLUTION INFORMATION REPRODUCTION  
BY TRACKING ADDRESS INFORMATION IN NORMAL  
RESOLUTION**

**CERTIFICATE UNDER 37 C.F.R. § 3.73(b)**

Pioneer Electronic Corporation, a Japanese corporation, certifies that it is the assignee of the entire right, title and interest in the patent application identified above by virtue of an assignment from the inventor of the patent application identified above. The assignment was recorded in the Patent and Trademark Office at Reel 6716, Frame 088, and relates to U.S. Patent Application Serial No. 08/126,515, filed on September 24, 1993, now U.S. Patent No. 5,448,552, for which a reissue patent is sought.

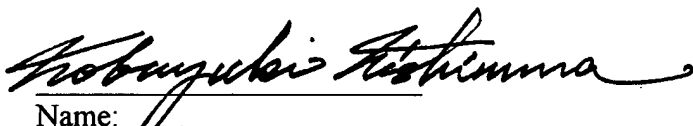
Copies of assignment documents in the chain of title are attached.

The undersigned has reviewed all the documents in the chain of title of the patent application identified above and, to the best of undersigned's knowledge and belief, title is in the assignee identified above.

The undersigned, whose title is supplied below, is empowered to sign this certificate on behalf of the assignee.

I hereby declare that all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further, that these statements are made with the knowledge that willful false statements, and the like so made, are punishable by fine or imprisonment, or both, under Section 1001, Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Pioneer Electronic Corporation

By:   
Name:   
Date: June 27, 1997  
Title: General Manager  
Patent Administration  
Department  
Intellectual Property  
Division

ASSIGNMENT

FOR ONE DOLLAR (\$1.00) and other valuable consideration,  
the receipt and sufficiency of which is hereby acknowledged,  
I (We), Nobuaki ONAGI

being the inventor(s) of certain improvements in

OPTICAL DISK AND APPARATUS FOR REPRODUCING THE SAME

hereby assign unto PIONEER ELECTRONIC CORPORATION

having a principal place of business at

No. 4-1 Meguro 1-chome, Meguro-ku, Tokyo-to, Japan  
our entire right, title and interest in and to such  
invention, together with the patent rights and rights of  
protection to the same throughout the world, including any  
patent rights which may result from the application for  
United States Letters Patent in and to any and all divisions,  
reissues, continuations and extensions thereof and in and to  
any Letters Patent that may be granted thereon; said  
invention, application and Letters Patent that may be granted  
thereon; said invention, application and Letters Patent to be  
held and enjoyed by the said assignee for its own use and  
behalf and for the use and behalf of its successors and  
assigns, to the full end of the term from which said Letters  
patent or other rights of protection may be granted, as fully  
and as entirely as the same would have been held and enjoyed  
by us had this assignment and sale not been made.

WE COVENANT, AGREE AND WARRANT that we have a full and  
unencumbered title to the invention hereby assigned, and we  
further covenant and agree that we will, at any time upon  
request, without further compensation, execute and deliver  
any and all papers or instruments that in the opinion of the  
assignee may be necessary or desirable to secure said  
assignee the full enjoyment of the rights and properties  
herein conveyed or intended to be conveyed.

IN WITNESS WHEREOF, we have hereunto set out hand and  
seal this 1st day of September, 1993.

SEP 24 93

Date: September 1, 1993

Nobuaki Onagi

Date: \_\_\_\_\_

PATENT AND TRADEMARK  
OFFICE

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

REC 6716 FRANKO 88

3577-180

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicant/Patentee:** Nobuaki Onagi

**Serial No./Patent No.:** Unassigned/5,448,552

**Filed/Issued:** Concurrently/September 5, 1995

**For:** **SUPER RESOLUTION INFORMATION REPRODUCTION  
BY TRACKING ADDRESS INFORMATION IN NORMAL  
RESOLUTION**

**OFFER TO SURRENDER ORIGINAL PATENT**

Assistant Commissioner for Patents  
Washington, D.C. 20231

SIR:

Pioneer Electronic Corporation, by reason of an assignment recorded on  
September 24, 1993 on Reel 6716, Frame 088, hereby offers to surrender original U.S. Letters  
Patent No. 5,448,552 to take effect upon the issue of the reissued patent hereon.

Pioneer Electronic Corporation

By:

Name:

Date:

Title:

*Nobuaki Onagi*

*June 27, 1997*

*General Manager*

*Patent Administration  
Department*

*Intellectual Property  
Division*

3577-180

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicant/Patentee:** Nobuaki Onagi

**Serial No./Patent No.:** Unassigned/5,448,552

**Filed/Issued:** Concurrently/September 5, 1995

**For:** **SUPER RESOLUTION INFORMATION REPRODUCTION  
BY TRACKING ADDRESS INFORMATION IN NORMAL  
RESOLUTION**

**ORDER FOR A TITLE REPORT**

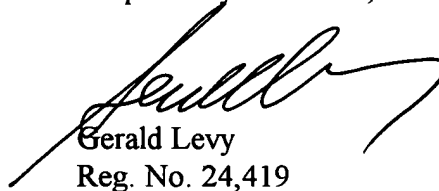
Assistant Commissioner for Patents  
Washington, D.C. 20231

SIR:

A title report for the above-identified patent, that is, for U.S. Patent Application Serial No. 08/126,515, filed in the U.S. Patent and Trademark Office on September 24, 1993, now U.S. Patent No. 5,448,552, for office purposes pursuant to 37 C.F.R. § 1.171 is respectfully requested.

The Commissioner is hereby authorized to charge any fees associated with this request to Deposit Account No. 11-215.

Respectfully submitted,

  
Gerald Levy  
Reg. No. 24,419

Kane, Dalsimer, Sullivan, Kurucz,  
Levy, Eisele and Richard, LLP  
711 Third Avenue  
New York, New York 10017  
(212) 687-6000

310

Attorney Docket No.: 3577-180  
Express Mail Label No.: EI301695466US